

*Atty. Docket No. 2002-IP-007973U1 (1391-35300)**Patent***REMARKS/ARGUMENTS*****Status of Claims***

Claims 1, 3, 4, 6-16, 18, and 32-36 are pending in the application.

Claims 1 and 32 have been amended.

Claim 33 has been canceled.

Claims 37-40 are new.

Applicants hereby request further examination and reconsideration of the presently claimed application.

***Telephone Interview***

The Applicants thank the Examiner for conducting the telephone interview on February 9, 2006 and for preparing the interview summary. The substance of the interview summary was properly recorded in the Examiner's interview summary mailed February 14, 2006.

***Claim Rejections – 35 USC § 103***

The Examiner rejected claims 1, 3, 4, 6-12, 18, and 32-36 under 35 USC § 103(a) as being unpatentable over *Villar* (U.S. 6,060,535) in view of *Burkhalter* (U.S. 4,450,010). The Examiner rejected claim 13 under 35 USC § 103(a) as being unpatentable over *Villar* and *Burkhalter* further in view of *Dillenbeck* (U.S. 5,613,558). The Examiner rejected claims 14-16 under 35 USC § 103(a) as being unpatentable over *Villar* and *Burkhalter* further in view of *Heathman* (U.S. 5,996,693). Claims 3, 4, 6-12, 18, and 33-36 depend on claims 1 and 32, thus claims 1, 3, 4, 6-12, 18, and 32-36 stand or fall on the application of *Villar* and *Burkhalter* to claims 1 and 32. The requirements for establishing a *prima facie* case of obviousness are well established:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references

themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure. MPEP § 2142 citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added).

Claim 32 has been amended to include the limitations of claim 33. Amended claim 32 now reads:

32. A method for cementing a well bore, the method comprising:  
selecting a desired density for a down hole cement composition;  
forming a cement composition having an actual density at the surface;  
estimating a change in the actual density when the cement composition is positioned down hole; and  
adding an inert gas to the cement composition, the inert gas compensating for the estimated change in the actual density such that the actual density is about equal to the desired density when the cement composition is positioned down hole;  
wherein the cement composition comprises a plurality of beads, and wherein the change in actual density results from the breakage of at least one of the beads when the cement composition is positioned in the well bore.

Amended claim 1 contains a similar limitation.

*Villar* and *Burkhalter* fail to make obvious claims 1 and 32 because *Villar* and *Burkhalter* fail to teach or suggest the breakage of beads in a cement composition. Claim 32 is directed to a cement composition containing both an inert gas and beads. Claim 32 expressly recites the limitation that at least one of the beads breaks when the cement composition is positioned downhole and that the inert gas in the cement composition compensates for the change in density due to bead breakage. In contrast, *Villar* teaches a cement composition comprising hollow spheres and various additives. However, *Villar* fails to teach or suggest that any of the hollow spheres break when the cement composition is positioned downhole. *Villar* also fails to teach or suggest that the inert gas can be added to the cement composition to compensate for the breakage

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of the hollow spheres. In the February 9, 2006 telephone interview, the Examiner agreed that Villar failed to teach or suggest the breakage of the beads and/or that the inert gas compensated for the bead breakage. Burkhalter is not cited by the Examiner to teach or suggest that the beads break when the cement composition is positioned downhole or that the inert gas can be added to the cement composition to compensate for the breakage of the beads, and rightfully so because Burkhalter fails to teach that the beads break when the cement composition is positioned downhole or that the inert gas can be added to the cement composition to compensate for the breakage of the beads. Thus, Villar and Burkhalter fail to teach or suggest the limitations in the present claims and, consequently, fail to make obvious claims 1, 3, 4, 6-16, 18, 32, and 34-36.

In addition, Villar and Burkhalter fail to make obvious claim 36 because Villar and Burkhalter fail to teach or suggest a cement composition comprising beads and gas, wherein the cement composition has a compressive strength of at least 2,000 pounds per square inch. Claim 36 depends on claim 32 and recites the limitation that the compressive strength of the cement composition is at least 2,000 pounds per square inch. In contrast, Villar teaches that cement compositions comprising gas have a compressive strength of at most 1,560 pounds per square inch. See Villar, col. 2, lines 1-11, col. 5, lines 13-17, and col. 11, lines 14-24. In the February 9, 2006 telephone interview, the Examiner agreed that Villar failed to teach or suggest a cement composition comprising beads and gas, wherein the cement composition has a compressive strength of at least 2,000 pounds per square inch. Burkhalter is not cited by the Examiner to teach or suggest a cement composition comprising beads and gas, wherein the cement composition has a compressive strength of at least 2,000 pounds per square inch, and rightfully so because Burkhalter fails to teach a cement composition comprising beads and gas,

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wherein the cement composition has a compressive strength of at least 2,000 pounds per square inch. Thus, *Villar* and *Burkhalter* fail to teach or suggest the limitations in the present claims and, consequently, fail to make obvious claim 36.

**New Claims**

New claims 37-40 have been added to further define the invention and are directed to the subject matter of claim 36 prior to the present amendment. More particularly, the new claims focus on the compressive strength of the foamed, bead-containing cement. New claims 37-40 are novel and non-obvious over the cited prior art because they recite the limitation that the cement comprises beads and gas, and that the compressive strength of the cement is at least 2,000 pounds per square inch, which is not taught or suggested by the cited prior art. No new matter is contained in these new claims.

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Consideration of the foregoing amendments and remarks, reconsideration of the application, and withdrawal of the rejections and objections is respectfully requested by Applicant. No new matter is introduced by way of the amendment. It is believed that each ground of rejection raised in the Office Action dated January 4, 2006 has been fully addressed. If any fee is due as a result of the filing of this paper, please appropriately charge such fee to Deposit Account Number 50-1515 of Conley Rose, P.C., Texas. If a petition for extension of time is necessary in order for this paper to be deemed timely filed, please consider this a petition therefore.

If a telephone conference would facilitate the resolution of any issue or expedite the prosecution of the application, the Examiner is invited to telephone the undersigned at the telephone number given below.

Respectfully submitted,

CONLEY ROSE, P.C.

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